



PROJECT BRIEFING

MECHANICAL ENGINEERING

PROJECT SUMMARY

Garland Commercial Industries, Inc. designs, manufactures and sells ranges, ovens, broilers and griddles for commercial applications. Although the company commands one third of the market share in this segment, they sought to increase their competitive advantage by improving design and reducing costs of their full-size convection ovens.

PROJECT DESCRIPTION





A team comprised of personnel from Enterprise Systems Partners, Inc. (ESPI) and Garland assumed the task of improving the functionality of the product and lowering overall production costs. The team focused on three main areas: increasing oven base strength, improving heat dispersion and improving the door alignment.

Through intense teamwork, sophisticated computer simulations and integrated product design techniques, the project team achieved the desired outcomes. The final product incorporated a design that increased oven base strength and reduced manufacturing costs. By using a fan along with a new insulation material, heat dissipation was improved. Finally, the door alignment was improved by using a design that was economical and easier to assemble.

As an addendum to the project, the team designed a cart to work in conjunction with Garland’s Master Series Ovens. This new product is not only cost effective but also adjustable, allowing it to be used with multiple ovens.

As a result of these improvements, Garland has realized significant cost savings and improvement in product performance.

RESULTS

-  Increased product strength.
-  Redesigned product for improved heat dissipation.
-  Designed additional products.
-  Reduced overall production costs by 15%.

“It has been a pleasure to use the bright ideas and computer technologies made available through the Enterprise Systems Center at Lehigh University, to model changes prior to actually cutting metal and proving them out for real.”

Director of Engineering
Garland Commercial Industries, Inc.

Project work completed in partnership with Ben Franklin Technology Partners of Northeastern Pennsylvania and the Enterprise Systems Center of Lehigh University.

